

## CLAIMS

What is claimed is:

1. A method for detecting the presence of a coating on spaced fins having electromagnetic surface properties different than the electromagnetic surface properties of the coating and defining at least one passage between the fins, said method comprising the steps of:
  - detecting electromagnetic rays from the coating,
  - establishing a predetermined benchmark for the electromagnetic rays,
  - comparing the electromagnetic rays to the benchmark, and
  - providing a signal in response to the electromagnetic rays crossing the benchmark.
2. A method as set forth in claim 1 wherein the step of detecting is further defined as detecting the reflectivity of the coating.
3. A method as set forth in claim 2 including the steps of:
  - propagating light rays from a light source through the passage between fins,
  - reflecting at least some of the light rays off the coating on the fins,
  - detecting reflected light rays reflected off the coating,
  - establishing the predetermined benchmark for the reflected light rays,
  - comparing the reflected light rays to the benchmark, and
  - providing the signal in response to the reflected light rays crossing the benchmark.

4. A method as set forth in claim 3 including the step of detecting direct light rays passing through the passage from the source without reflecting off the fins and establishing the predetermined benchmark by comparing the reflected light rays to the direct light rays to measure the ratio therebetween.

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5. A method as set forth in claim 3 including the step of reflecting at least some of the light rays off an un-coated section of the fins, detecting the un-coated light rays reflecting off the un-coated section, and establishing the predetermined benchmark by comparing the light rays reflected from the coating to the light rays reflected from the un-coated section to measure the ratio therebetween

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6. A method as set forth in claim 3 wherein the step of propagating of light rays is further defined as propagating a frequency modulated light.

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7. A method as set forth in claim 1 wherein the step of detecting is further defined as detecting the emissivity of the coating.

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8. A method as set forth in claim 7 including the step of emitting at least some of the light rays off an un-coated section of the fins, detecting the un-coated light rays emitted from the un-coated section, and establishing the predetermined benchmark by comparing the light rays emitted from the coating to the light rays emitted from the un-coated section to measure the ratio therebetween

9. A method for detecting the presence of a coating on a part having electromagnetic surface properties different than the electromagnetic surface properties of the coating, said method comprising the steps of;

detecting electromagnetic rays from the coating,  
5 establishing a predetermined benchmark for the electromagnetic rays,  
comparing the electromagnetic rays to the benchmark, and  
providing a signal in response to the electromagnetic rays crossing the  
benchmark.

10. 10. A heat exchanger assembly comprising;

spaced fins having electromagnetic surface properties and defining at  
least one passage between the fins,

a coating on said fins having electromagnetic surface properties  
different than the electromagnetic surface properties of said fins,

15 a first detector for detecting electromagnetic rays from said coating,

a comparator for comparing the electromagnetic rays to a  
predetermined benchmark for the electromagnetic rays and providing a signal in  
response to the electromagnetic rays crossing the benchmark.

20 11. An assembly as set forth in claim 10 including a light source for  
propagating light rays through said passage between said fins for reflecting at least  
some of the light rays off said coating on said fins.

25 12. An assembly as set forth in claim 11 including a second detector for  
detecting direct light rays passing through the passage from said light source without

reflecting off said fins, and said comparator is responsive to said first and second detectors for comparing the reflected light rays to the direct light rays to measure the ratio therebetween.

5           13. An assembly as set forth in claim 10 wherein said fins include an un-coated section, and including a second detector for detecting the un-coated rays from said un-coated section, and said comparator is responsive to first and second detectors for comparing the rays from the coating to the rays from the un-coated section to measure the ratio therebetween.

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14. An assembly as set forth in claim 11 wherein said light source comprises a frequency modulated light.

15. An assembly as set forth in claim 11 wherein said light source comprises a light emitting diode.